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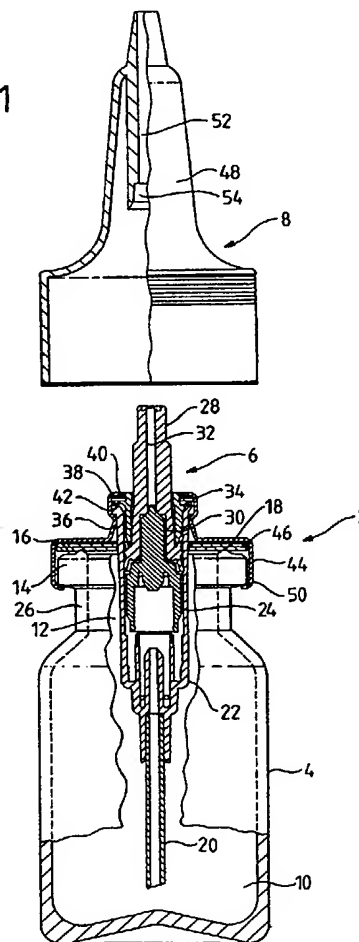
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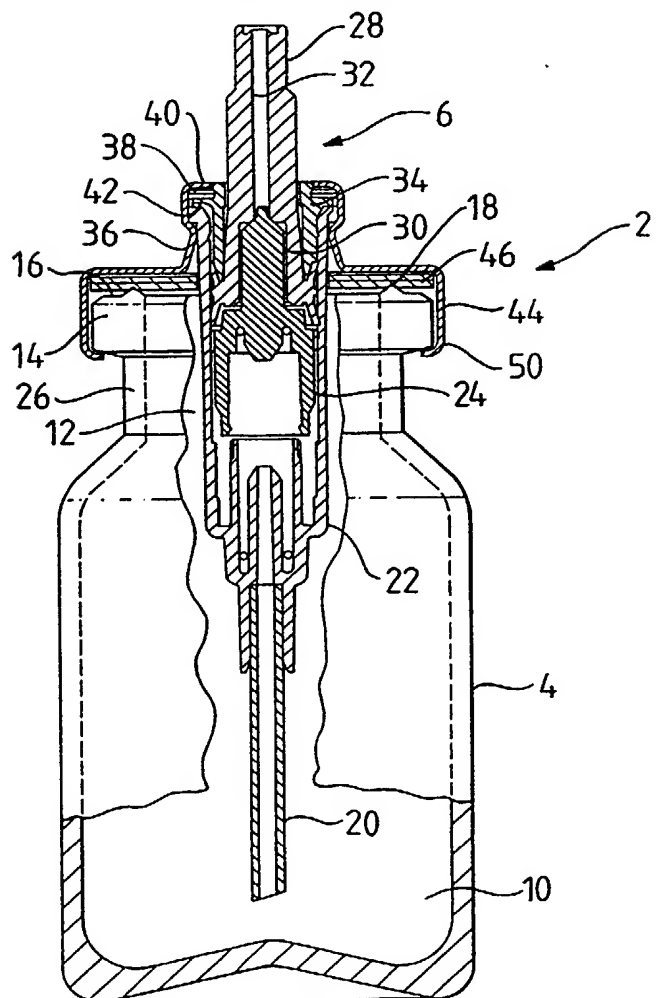
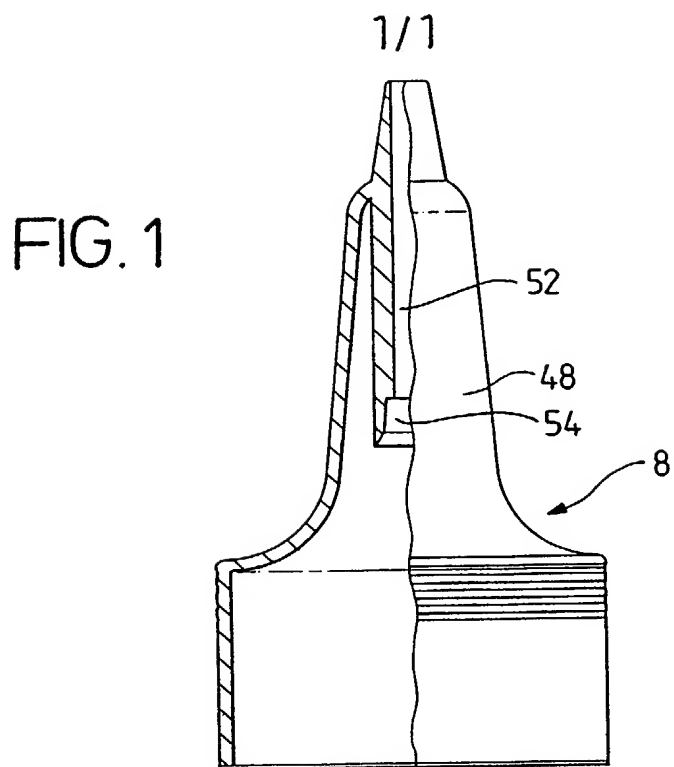
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(54) Abstract Title
Nasal sprays

(57) A nasal spray comprises open mouthed bottle 4 containing preparation 10 and spray pump dispenser 2 mounted to close the open top of the bottle. Dip tube 20 extends into the preparation. Mounting collar 36 seals the pump body to the bottle in an airtight manner and holds the pump body parts together. The collar may be of aluminium and is deformed around a flange 14 at the bottle mouth. A gasket 46 lies between the collar and the upper surface 12 of the flange which has an annular rib 18 for co-operation with the gasket. An actuator body 48 is received over the pump unit. The bottle may be of plastic or coloured glass to protect the preparation against light. The preparation comprises sesame oil which is stated as being useful in treatment of nasal discomfort e.g. nasal dryness.

FIG. 1





NASAL SPRAYS

5 The present invention relates to nasal sprays, and
in particular to nasal sprays of or including sesame
oil.

10 It has been found that preparations including
sesame oil, and in particular preparations comprising
substantially pure sesame oil, can be used very
successfully for the treatment of nasal discomfort, and
in particular nasal dryness.

15 Such preparations have to date been administered by
means of a hand operated applicator which sprays the
preparation into the upper parts of the nasal cavity.
The spray includes a pump which is mounted by click
fitted onto the top of a bottle containing the
preparation. Such a product is available commercially
from the Applicant under the trade name Nozoil.

20 It has been found, however, that over time sesame
oil degrades with exposure to air. This means that the
preparation may not have a particularly long shelf life.
It will be appreciated that the spray may only be used
occasionally, and ideally the product should have a
shelf life of at least two years.

25 The applicant has recognised that one reason for
the degradation in the shelf life of the product is the
manner in which the applicator is fitted onto the bottle
containing the preparation.

30 The present invention seeks to overcome the above
problem, so from a first aspect, the invention provides
a nasal spray comprising a open mouthed container
containing a preparation containing sesame oil, and
preferably consisting of substantially pure sesame oil,
and a spray pump dispenser mounted to close the open top
35 of the container and having a dip tube extending down
into the preparation, wherein the pump body is provided
with a mounting collar which seals to the top of the
container in an airtight manner.

In this way, the admission of air to the contents

of the container is limited when the spray is not being used, leading to an improved shelf life.

In the preferred embodiment, the mounting collar is formed of a deformable material, for example aluminium which can be deformed around a flange provided around the mouth of the container to provide an airtight give an airtight closure.

Preferably a gasket is provided between the top of the container and the collar so as to ensure the seal.

Most preferably the top surface of the container around its mouth is provided with a raised annular rib which cooperates with the gasket to ensure a seal

The body parts of the pump may be made substantially of plastics materials and the mounting collar of the pump be configured so as to hold the pump components together.

In order to reduce damage to the container contents due to light, the container is preferably made from coloured glass or plastics material.

A preferred embodiment of the invention will now be described with reference to the accompanied drawings in which to Figure 1 shows a partially exploded view of a spray according to the invention.

With reference to Figure 1, a spray dispenser 2 comprises a bottle 4, a pump unit 6, a pump actuator 8 and a cap (not shown) which fits over the pump actuator 8. A nasal preparation 10 is contained within the bottle 4. The preparation 10 in the preferred embodiment consists of substantially pure sesame oil.

The bottle 4 is made from a coloured glass so as to protect the sesame oil preparation 10 from light, and has a mouth 12 for receiving the pump unit 6. A mounting flange 14 for the pump unit 6 is provided around the mouth 12. The upper surface 16 of the flange is provided with a generally triangular sectioned rib 18.

The pump unit 6 is of a type VP7 available

commercially from Valois Division Pharmacie, and comprises a dip tube 20 which extends down into the preparation 10 within the bottle 4, a main body 22 of plastics such as polypropylene, a valve 24 mounted
5 within the body 22 a spring 26 and a stem . The stem 28 has a lower bore portion 30 which receives the valve 24, and a dispensing bore 32 extending therethrough. The stem 28 and valve 24 are slidable within the body 22, and a stop member 34 limits the upward movement of the
10 stem 28.

The body 20 and the stop 34 are held together by a deformable aluminium collar 36. A gasket 38 is provided between the upper flange 40 of the collar 36 and an opposing flange 42 of the stop member 34.

15 The collar 36 also mounts the pump unit 6 on the bottle 4. To this end, the collar 36 also comprises a lower portion 44 which extends down and is deformed around the flange 14 of the bottle 4. A gasket 46 is positioned between the lower portion 44 of the collar 36
20 and the upper surface of the bottle flange 12. The annular rib 18 provided around the bottle mouth 12 engages with the gasket 46 to ensure an airtight joint between the collar 38 and the bottle 4.

The actuator 8 comprises a body 48 which is
25 received over the outer surface 50 of the pump unit 6. The body 48 is provided with an internal bore 52 having an enlarged lower end 54 which fits over and engages the upper end of the stem 30.

30 The cap (not shown) will have suitable means for retaining the cap on the actuator 8.

To use the spray, a user inserts the actuator 8 into a nostril and presses the actuator 8 and bottle 4 toward each other. This actuates the pump unit 6 to dispense a predetermined dose of the preparation 10 into
35 the user's nostril.

It will be appreciated that the collar mounting arrangement disclosed reduces the seepage of air into

the bottle 4 when the spray is not being used, thereby improving the shelf life of the preparation 10.

Claims

1. A nasal spray comprising a open mouthed container containing a preparation containing sesame oil, and preferably consisting of substantially pure sesame oil, and a spray pump dispenser mounted to close the open top of the container and having a dip tube extending down into the preparation, wherein the pump body is provided with a mounting collar which seals to the top of the container in an airtight manner.
2. A nasal spray as claimed in claim 1 wherein the mounting collar is formed of a deformable material, for example aluminium, which is deformed around a flange provided around the mouth of the container.
3. A nasal spray as claimed in claim 2 wherein a gasket is provided between the top of the container and the collar.
4. A nasal spray as claimed in claim 3 wherein the surface of the container around its mouth is provided with a raised annular rib which cooperates with the gasket.
5. A nasal spray as claimed in any preceding claim wherein the body parts of the pump are held together by the mounting collar.
6. A nasal spray as claimed in any preceding claim wherein the container is made from a coloured glass or plastics material.



INVESTOR IN PEOPLE

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 Claims searched: 1-6

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Patents Act 1977 Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:
 UK Cl (Ed.T): A5B (BE B2), A5T (TDC), F1W (WCL), F1R (RCC R15B1)
 Int Cl (Ed.7): A61K 9/00; A61M15/08; B05B11/00
 Other: Online: WPI EPODOC PAJ

Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
X	GB2110771 A (AEROSOL INVENTIONS) See the Figure and page 2, lines 11-16. Spray pump in mounting cap in glass container; parts retained by cap.	1-6
X	WO98/56688 A1 (VALOIS) See the Figure, page 2, lines 19-26 and page 4, lines 21-23. Plastic or glass reservoir with pump attached by plastics ferrule with gasket and rib; metal ferrule acknowledged.	1-4,6
X	US6059150 (PFEIFFER) Nasal spray with screw mounting collar and gasket.	1,5
X	US5769274 (SOFAB) See Figure 1c. Ferrule retaining pump parts is deformed to retain on container flange.	1-5
X	US5069369 (RISDON) See Figure 2a. Metal ferrule is deformed to retain pump and gasket on ribbed container flange; glass container acknowledged.	1-4, 6
X	GB1405069 A (MESHBERG) See the Figures. Aluminium ferrule with gasket deformed around glass or plastics container having ribbed mouth.	1-4,6

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.